

Remarks

The patent application identified as [Docket No. MG-00067] at page 1, line3 and at page 5, lines 6 and 10 issued on 10/15/2002 as U.S. Patent 6,466,158.

Claims 2 through 8 remain active in this case. Claim 1 is canceled, and claim 2 is amended to include limitations from claim 1 from which claim 2 originally depended. Dependent claims 4 and 6 are amended to depend from an existing claim.

The Examiner has rejected claims 1 through 6 and claim 8 as being obvious in view of *Hansen* (U.S.P. 6,470,490) combined with *Masch* (U.S.P. 5,930,762). According to the rejection, a person of ordinary skill allegedly would combine the ambiguities of *Masch* with the ordering scheme of *Hansen* which does not teach grouping of objects according to ambiguities therein. These rejections are respectfully traversed for the following reasons.

There is no description by the Examiner of the manner in which *Hansen* could be modified in light of *Masch* to group and to order objects having the ambiguities alluded to in *Masch*. First of all, *Hansen* teaches a method of extracting selected elements from a relational data base according to a binding value determined by an intersection established on a context of points. The ambiguities arise in the evaluation process and are resolved by the application of weighting factors. (Col. 3, lines 30–38)

While the points are first taken in numerical order for initializing the data base, there is no reordering or sorting based on ambiguities along selected dimensions.

According to the Examiner, *Masch* teaches grouping of objects according to ambiguities in the objects. Actually, *Masch* teaches clustering which is only needed because “the number of scenarios or strategies still may turn out to be too large for solving the problem with available resources in the required time.” (Col 32, lines 51-60) This does not show, teach, or even suggest the Examiner’s assertion that *Masch* teaches ordering ambiguous objects since clustering is not synonymous with ordering or sorting. The reference at column 33, lines 3–6 states “At some stages of the method, clusters or other groups that deserve special attention can be completely ‘unclustered’ and later clustered again, in old or new combinations.” The criteria given for clustering is merely that they be similar, not ambiguous, a condition contrary to the recitation in the claim.

The ordering of objects within a cluster or a group based on ambiguous coordinates or indices is not disclosed or implied. Column 18, lines 35–43 of *Masch* discusses risk limiting constraints in optimization models. Such constraints are not related to clustering or ambiguities by which objects

are clustered.

While the criteria for determining ambiguity in *Masch* are not clear, there is no reading of the reference that could be construed as disclosing, teaching, or suggesting “determining ambiguities among target indicia according to whether separation of targets is less than a predetermined threshold value” as called for in claim 2, even in its original form.

For the above reasons, it is uncertain that a person of ordinary skill would be able to combine the teachings of *Hansen* and *Masch* to arrive at the invention as claimed by the applicant. nor is any explanation provided about how the asserted combination could be made. First, the ambiguities alluded to in *Masch* are not compatible with any of the clusterings described by *Hansen*. Second, there is no way that the clustering in *Hansen* could be adapted to handle the data disclosed by *Masch*. Third, the process of unclustering in the references is irrelevant since there is nothing in the present claims that alludes to unclustering which is quite the opposite from grouping.

The rejections of claims 2 through 6 are based on a statement that “*Hansen* as modified,” apparently by *Masch* but with no description of such modification, teaches the elements of the claims.

In claim 2, “determining ambiguities among coordinate values of the location in the multidimensional space according to whether separation in a dimension is less than a predetermined value” is not taught, shown, or suggested in the references. The descriptions in the references do not even mention anything that could be interpreted as separation distances. The *Masch* reference discusses boundary outcome levels as “risk” and constraints based on risk-related activities, but these citations bear no discernible relation to the elements of the claims.

With respect to the rejection of claim 3, the argument in the preceding paragraph applies equally against the reasons cited for rejection. The *Masch* reference neither discloses nor implies anything remotely related to a determination of ambiguities based on “known errors of position measurements” as called for by the claim.

As to claim 4, nothing in *Hansen* suggests selection of dimension based on the greatest “dispersion” along a dimension. The indicated section of *Hansen* (col. 37, line 41–50) refers to tracking “the first dimension with the highest binding number” which “becomes the dimension used for the primary ‘key’ for storing the binding.” A plain reading of the reference makes it clear that during a binding, “all points in the intersection, from left to right” are scanned to find the highest binding number. There is no mention of calculating a “dispersion” along a first dimension as called

for by claim 4. Furthermore, without further explanation, the manner by which this feature of *Hansen* as modified by *Masch* is not clear and no explanation is furnished in the rejection. Storing the “binding values” of *Hansen* has no apparent nexus with *Masch*’s determination of risk-related outcome levels.

The element of claim 5, “determining ambiguities among coordinate values according to whether separation of targets is less than any of a plurality predetermined threshold values,” is not at all similar to the process of *Masch* (col. 25, lines 23–65) which is described as determining “whether or not the solution is feasible (i.e., whether all its outcome levels are simultaneously achievable).” Determining whether the determination of a satisfactory outcome according to *Masch* for the purpose of modifying “predetermined boundary limits” to “limit unsatisfactory outcomes” does not suggest determining ambiguities nor does it suggest finding the differences amongst separations of targets and comparing them to a “plurality of threshold values” as called for by the claim.

Claim 6 call for determining ambiguities based “on a maximum rate of change of position of one target with respect to any other.” The material in *Masch* relied on for the rejection (col. 18, lines 44 – 55) relates to classifying “risk-limiting constraints” into two categories such as “equality-inequality” or “fine penalty” types. The first category is said to be predetermined but the constraints on the second category “are not known in advance.” The purpose of the citation and interpretation of the *Masch* reference is obscure since the *Masch* material has no relation whatsoever to the element of claim 6. *Masch* in no place even mentions rates of change among variables, the key feature of claim 6.

To support the rejection of claim 8, the Examiner lists the elements of claim 8 missing from *Hansen* by reference to *Masch*, specifically to the Abstract and column 32, line 61 to column 33, line 3 as well as column 18, lines 35–43. The Examiner states that these citations teach grouping of objects according to ambiguities and ordering the ambiguous objects.

The only mention of ambiguity starts at column 32, line 67 and reads, “Therefore, both objects with ambiguous cluster allocation and the worst objects of a cluster can be separated and treated as individual entities — either from the very beginning or upon obtaining computational results. At some stages of the method, clusters or other groups that deserve special attention can be completely ‘unclustered,’ and later clustered again in old or new combinations.”

Thus, it appears that *Masch* is describing ambiguous clusters — not the same as ambiguities within clusters — or groups that deserve special attention being unclustered which is diametrically

opposite from the claimed method in which the ambiguous objects are grouped, not unclustered, i.e., ungrouped, as described in *Masch*.

Furthermore, there is nothing in *Masch* that discloses the clusters exhibit “an ambiguity along the coordinate axis. One reason is that the objects referred to in *Masch* are entries in either multidimensional outcome and regret matrices. The ambiguities do not exist along any particular dimension of such matrices and therefore, for all additional reasons, do not correspond to the grouping step claimed in claim 8.

The Examiner objects to claim 7 as depending from a rejected base claim, viz., claim 5 which depends from claim 2 by mesne dependencies. Since claim 2 as amended is considered allowable for the reasons stated above, then all claims depending therefrom, by mesne claims or directly, are deemed allowable for at least the same reasons.

The Examiner’s statement for the indication of allowable subject matter refers to the fact that *Hansen* and *Masch* do not disclose, teach, or suggest the use of the “maximum rate of change of position of one object with respect to another.” This should equally apply to the allowability of claim 6.

The applicant appreciates the Examiner making of record the prior art not applied against the claims.

For the reasons argued above, claims 2 though 8 are deemed to be allowable and this application is now in condition for allowance. The Examiner is respectfully requested to pass this case to issue.

If the Examiner continues to reject claims for the reasons set forth in his action of April 9, he respectfully requested to explain in sufficient detail the reasons for his interpretation of the teachings of *Masch* as combined with *Hansen* and to show how the references can be combined in light of the fact that the objects of the references are neither related nor consistent with one another.